

**TECHNICAL REVIEW DOCUMENT**  
**for**  
**PROPOSED MODIFICATION to OPERATING PERMIT 95OPMF031**

Questar Gas Management Company  
Powder Wash Compressor Station

Moffat County  
Source ID 0810049

Prepared by Blue Parish  
March – June & September 2009

**I. Purpose:**

This document will establish the basis for decisions made regarding the requested modifications to the operating permit for the Questar Gas Management Company Powder Wash Compressor Station (PWCS). This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis. This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the original request for modification submitted to the Division on January 15, 2009 and supplemental information submitted to the Division on February 26, 2009, May 13, 2009, June 3, 2009 and in telephone and email correspondence during March through June of 2009. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

**II. Description of Permit Modification Request/Modification Type**

The operating permit for PWCS was renewed on August 6, 2006. Questar submitted a request on January 15, 2009 to incorporate the following modifications into the operating permit:

- Installation of a Caterpillar G3608 engine (ENG3, AIRS ID 025; Construction Permit 08MF0451)
- Removal of Waukesha L7042 engine P104 (AIRS ID 004)
- Removal of dehydration unit P502 (AIRS ID 017)
- Installation of a flash tank, condenser and flare for control of the Stearns-Roger TEG dehydration unit P501 (AIRS ID 020)
- Correction of the fuel heating value for engine P105 (AIRS ID 024) to 1070 Btu/scf and the fuel consumption to 84.7 MMScf/yr

The Division also received the following information from the source:

- Notification that the new Responsible Official for the facility will be Craig Arthur Brown effective March 1, 2009 (received on February 26, 2009).
- Notification that the Waukesha L7042G engine (Unit P104) was shutdown and removed from PWCS (received October 15, 2008).

#### Emissions

Emissions from the new Caterpillar G3608 (AIRS ID 025) engine are:

<b>Pollutant</b>	<b>Emissions</b>	
NOx	13.5	tons per year
VOC	2.8	tons per year
CO	4.8	tons per year

Emissions listed above are included in the application, and reflect permitted values from Construction Permit 08MF0451, issued May 5, 2008 (with the exception of NOx, as described below in Section IV). Actual emissions are not included in the application or on recently submitted APENs for this engine. Non-criteria Reportable Pollutant emissions from the Caterpillar G3608 engine listed in the application are:

<b>Pollutant</b>	<b>Reportable Emissions</b>	
Formaldehyde	3,897	lbs per year
Acetaldehyde	244	lbs per year
Acrolein	150	lbs per year
Benzene	13	lbs per year

The removal of P104 and P502 and the installation of controls on P501 will result in reductions in NOx, VOC and CO. Actual emissions based on APENs submitted

February 25, 2003 for these units (which reported potential to emit as actual emissions) were:

	<b>Actual NOx Emissions (tpy)</b>	<b>Actual VOC Emissions (tpy)</b>	<b>Actual CO Emissions (tpy)</b>
P104 -Waukesha I7042	119.7	1.0	115.9
P502-Enertec Dehydrator		14.97	
P501-Stearns Roger Dehy		23.28	

Total facility emissions based on this modification are shown in the tables attached to the end of this document.

Colorado Regulation No. 3, Part C, Section X.A identifies those modifications that can be processed under the minor permit modification procedures. Specifically, minor permit modifications “are not otherwise required by the Division to be processed as a significant modification” (Colorado Regulation No. 3, Part C, Section x.A.6). The Division requires that “any change that causes a significant increase in emissions” be processed as a significant modification (Colorado Regulation No. 3, Part C, Section I.B.36.h.(i)). Emissions from the new engine are less than the PSD significance threshold for VOC and NOx (40 tons per year each). However, the new engine is subject to Standards Of Performance For Stationary Spark Ignition Internal Combustion Engines (NSPS JJJJ), and therefore the addition of the engine will be processed as a significant modification. The other modifications requested in the application qualify as minor modifications as described above. All modifications requested in the January 15, 2009 application will be issued together.

**III. Modeling** – Emissions of the Caterpillar G3608 engine are less than the thresholds in the Division’s Modeling Guidelines. The removal of point P104 will also result in a net reduction in actual emissions. Therefore, modeling is not required.

#### **IV. Discussion of Modifications Made**

##### **Source Requested Modifications**

The Division addressed the source’s requested modifications as follows:

##### **General Information/Removal of Equipment**

- Page following cover page: The responsible official facility contact person and company address were updated.
- Section I, Condition 1.1: The permitted activities language was updated; the Division modified the proposed language to show that only the regenerator tank (and not the flash tank) was vented to the flare.

- Section I, Condition 7.1: removed Emission Unit P104 (AIRS ID 004) and Emission Unit P502 (AIRS ID 017) from the table. Added new Emission Unit ENG3 (AIRS ID 025) to the table.
- Section II, Condition 1: removed all specific permit terms related to Unit P104 from Section II. Subsequent Conditions are now renumbered.
- Section II, Condition 5: removed all specific permit terms related to Unit P502 from Section II. Subsequent Conditions are now renumbered.

#### Stearns-Roger Triethylene Glycol Dehydrator (AIRS 020, P501)

**1. Applicable Requirements** – Questar has installed a flash tank, condenser and flare (the flare controls the flash tank vent stream and the post-condenser still vent stream) on the dehydrator in order to meet the requirements of Colorado Regulation 7, Section XVII, which applies statewide and requires dehydrator emissions to be controlled by 90%. According to the original Technical Review Document for this facility (August 24, 1998), this dehydrator was last modified in 1947 and is therefore grandfathered from Colorado Construction Permitting requirements per Regulation No. 3, Part B.I.A. The Division does not consider the installation of the flare to meet the requirements of Colorado Regulation No. 7 to be a modification to the dehydrator, and the unit remains grandfathered from Reg 3, Part B.

Triethylene glycol dehydrators (TEG) with actual benzene emissions greater than 0.9 Megagrams per year at area sources of Hazardous Air Pollutants are subject to requirements under 40 CFR 63 Subpart HH (*National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities*). Although actual benzene emissions from the dehydrator will be less than 0.9 Megagrams per year when considering combustion in the flare, the flare cannot be considered a federally enforceable control device without including emission limits in the permit. The source requested that the unit remain grandfathered without specific emission limits, and therefore the dehydrator will not qualify for the MACT HH exemption as per 40 CFR 63.772(b)(2).

The facility is not located within an urbanized area, an urbanized cluster containing 10,000 or more people, or within two miles of any urbanized area. MACT HH includes work practice standards (optimal glycol recirculation rate) for area source TEG dehydrators not in UA plus offset and UC boundaries. The optimal glycol recirculation rate for each dehydrator is calculated with the following equation:

$$L_{OPT} = 1.15 * 3.0 \frac{\text{gal TEG}}{\text{lb H}_2\text{O}} * \left( \frac{F * (I - O)}{24 \text{ hr / day}} \right)$$

Where:

LOPT = Optimal circulation rate, gal/hr.

F = Gas flowrate (MMSCF/D)

I = Inlet water content (lb/MMSCF)  
O = Outlet water content (lb/MMSCF)  
3.0 = The industry accepted rule of thumb for a TEG-to water ratio (gal TEG/lbH<sub>2</sub>O)  
1.15 = Adjustment factor included for a margin of safety.

The initial notification submitted by the source on April 1, 2009 included a gas flow rate (F) of 11.87 MMscf/day, an inlet water content of 32.1 lb/MMscf and outlet water content of 5.0 lb/MMscf. Based on these values, the optimal recirculation rate is 46, gal/hour, or 0.77 gal/min.

Based on the APEN submitted for this dehydrator on January 15, 2009, uncontrolled emissions are greater than major source thresholds for VOC (127.33 tons per year). The preamble to the CAM rule states that Part 64 applies only where a federally enforceable emission limitation or standard applies (see FR 54912, October 12, 1997). Because the requirement to control emissions to 90% is a state-only enforceable requirement (Regulation No 7, Section XVII), CAM does not apply to the dehydrator.

The following conditions were added to the permit:

- Section I, Condition 7.1: Updated Emission Unit P501 (AIRS ID 020) to note the condenser and flare as control devices.
  - Section II, Condition 3 (old condition 4): Added new Condition 3.5: Colorado Reg 7 requirements for control of dehydrators. Note that the proposed permit submitted with the application included control device language similar to that in the Powder Wash Dew Point Plant, which is based on requirements from a Compliance Order on Consent (COC 2006-117). Because this COC applied only to the dehydrator at the Dew Point Plant, the requirements included for PWCS are based solely on applicable Reg 7 requirements. Reg 7 Section XVII requirements are currently State-only enforceable.
  - Section II, Condition 3 (old condition 4): Added new Condition 3.6: Colorado Reg 7 opacity requirements for the flare.
  - Section II, Condition 3 (old condition 4): Added new Condition 3.9: National Emission Standards for Hazardous Air Pollutants for Source Categories from Oil and Natural Gas Production Facilities (MACT HH). See discussion of applicable requirements above for details.
- 2. Emission Factors** - The current permit requires emissions to be calculated with GLYCalc using inlet gas samples, wet gas temperature and pressure and glycol recirculation rate. GLYCalc remains the method used for pre-control emission calculations.
- 3. Monitoring** – Based on changes to the dehydrator, additional parameters are now necessary for tracking emissions using GLYCalc (Flash tank

temperature and pressure and condenser outlet temperature). The requirement to track these parameters was added to Condition 3.2 (old Condition 4.2). Additionally, the Division added a monthly requirement to inspect the flare for proper operation (new Condition 3.7), and a condition to track the periods of flare downtime and to account for these periods in the emission calculation requirement (new condition 3.8).

Waukesha Engine, S/N: C-61996-1 (AIRS 024, P105)

- Section II, Condition 5.2 (old condition 7.2): changed annual fuel consumption limit from 75.6 MMscf/yr to 84.7 MMscf/yr, based on a fuel heating value of 1070 btu/scf listed in an APEN submitted to the Division on January 15, 2009.

New Engine ("New" Section II.6)

**Caterpillar G3608, S/N: BEN00468, natural gas-fired, turbo charged, 4-stroke lean-burn reciprocating internal combustion engine with site rated output at 2,002 horsepower at 1,000 rpm, powering a natural gas compressor. This engine is equipped with an oxidation catalyst for the reduction of NOx, CO and Hazardous Air Pollutant emissions.**

**1. Applicable Requirements** – Questar submitted a construction permit application for this engine on January 28, 2008. The Division issued an initial approval construction permit (08MF0451) on May 5, 2008. Construction permit 08MF0534 authorized the permittee to install either of two natural gas-fired engines: a Caterpillar G3608 or a Caterpillar G3516. The emission limits listed in the permit were the highest of the two options for each pollutant (CO and VOC were higher for the G3608, and NOx was higher for the G3516). The source initially installed the Caterpillar G3516 in July 1, 2008 (according to the notice of startup submitted to the Division) to be used until the Caterpillar G3608 was ready to be installed. The G3608 was first placed into service on November 7, 2008 (according to the Title V application). Note that Questar submitted a Final Approval Self-Certification on July 28, 2008; however this was prior to the installation of the Caterpillar G3608 engine. A final approval self certification form for the G3608 engine was received by the Division on May 13, 2009. Therefore, the source has demonstrated compliance under the provisions of Regulation No. 3, Part B, Section III.G.2 for initial approval construction permit 08MF0451, but has not yet received a final approval construction permit. Under the provisions of Regulation No. 3, Part C, Section V.A.3., the Division will not issue a final approval construction permit and is allowing the initial approval construction permit to continue in full force and effect. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit as indicated in the following discussion:

- Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process

modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. EPA Method 9 shall be used to measure opacity. (Condition 1, Regulation No. 1, Section II.A.1. & 4.)

Although this engine has a control device, it cannot be adjusted and cannot be cleaned while the engine is operating. Process modifications and startup may apply to engines, however, based on engineering judgment, the Division believes that such activities would be unlikely to occur for longer than six minutes. Therefore, the 30% opacity requirement has not been included in the operating permit. The 20% opacity requirement has been updated to reflect current Regulation 1 language. Based on EPA's response to a petition on another Title V operating permit, minor language changes were made to the language in Condition 3.3 to indicate that only natural gas is used as fuel in this engine and that records be kept to verify that is the case.

- Emissions of air pollutants shall not exceed the following limitations (as calculated in the Division's preliminary analysis): (Condition 3):
  - NOx: 19.4 tpy and 3,296 lb/month
  - VOC: 2.8 tpy and 476 lb/month
  - CO: 4.8 tpy and 816 lb/month

During the first twelve (12) months of operation, compliance with both the monthly and yearly emission limitations shall be required. After the first twelve (12) months of operation, compliance with only the yearly limitation shall be required.

Compliance with the annual limits shall be determined on a rolling (12) month total. By the end of each month a new twelve month total is calculated based on the previous twelve months' data. The permit holder shall calculate monthly emissions and keep a compliance record on site, or at a local field office with site responsibility for Division review.

As noted above, the G3608 engine replaced the temporary G3516 engine; therefore, the fuel and emission limits listed in the operating permit reflect those of the Caterpillar G3608 (which are the same for as the construction permit, except that NOx is now 13.5 tons per year and 1.15 tons per month).

- This engine shall be limited to a maximum consumption rate as listed below and all other activities, operational rates and numbers of equipment as stated in the application. Monthly records of the actual consumption rate shall be maintained by the applicant and made available to the Division for inspection upon request. (Condition 4)

Consumption of natural gas as fuel shall not exceed 11.4 MMscf per month (31 days) and 134.5 MMscf per year.

Compliance with the yearly consumption limits shall be determined on a rolling twelve (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. The permit holder shall calculate monthly consumption of natural gas and keep a compliance record on site or at a local field office with site responsibility, for Division review.

The construction permit did not include the statement that the monthly limits apply only during the first year of operation; this statement has been added into the operating permit in accordance with Division policy.

- A source compliance test shall be conducted to measure the emission rate of NOx and CO (Condition 5).

A performance test for this engine was conducted on January 7, 2009 and was approved by the Division on March 19, 2009. Therefore, Condition No. 5 in permit 08MF0451 will not be incorporated into the operating permit.

- This engine shall be equipped with an oxidation catalyst system capable of reducing uncontrolled emissions to the levels listed in Condition 3, above. Operating parameters of the control equipment are identified in the operation and maintenance plan as specified in Attachment B (Condition 6).

Appropriate periodic monitoring will be included in the permit to insure compliance with the emission limitations and the requirements of the operation and maintenance plan. Note that performance testing conducted in accordance with NSPS JJJJ requirements is determined to meet the requirements of a portable monitoring test.

- Within one hundred and eighty days (180) after commencement of operation, the applicant shall adopt and follow the operating and maintenance plan and record keeping format as specified in Attachment B, in order to demonstrate compliance on an ongoing basis with the requirements of this permit. (Condition 7).

The operating permit includes appropriate periodic monitoring to insure compliance with the NOX and CO emissions limitations and the requirements of Attachment B.

- Prevention of Significant Deterioration (PSD) requirements shall apply to this source at any such time that this source becomes a major solely by virtue of a relaxation in any permit condition. (Condition 8)

Facility wide emissions for criteria pollutants are below major stationary source thresholds. Since no actual requirements apply unless certain modifications to the permit conditions for this engine are made, this condition has not been included in the operating permit.

- The compressor is subject to the New Source Performance Standards requirements of Regulation No. 6, Part A, Subpart KKK, Standards of Performance for Equipment Leaks of VOCs from Onshore Natural Gas Processing Plants (condition 9).

In addition, the requirements of Regulation No. 6, Part A, General Provisions apply, including:

- Good Practices (§ 60.11(d)).
- Circumvention (§ 60.12).
- Record startups, shutdowns and malfunctions (§ 60.7(b)).

The permit condition has been expanded in the operating permit to note the specific items from Subpart KKK that are applicable. The requirement to record startups, shutdowns and malfunctions in § 60.7(b) will not be included since § 60.486(k), as referenced in § 60.635(a), indicates that §60.7(b) does not apply.

- APEN reporting requirements (Condition 10)

The APEN reporting requirements will not be identified in the permit as a specific condition but are included in Section IV (General Conditions) of the permit, condition 22.e.

- The serial number of the subject equipment shall be provided to the Division within one hundred and eighty days (180) after commencement of operation. (Condition 11).

This information was provided in the startup notice and the appropriate identifying information has been included in the operating permit, therefore, this requirement has not been included in the operating permit.

- Within one hundred and eighty days (180) after commencement of operation, compliance with the conditions contained on this permit shall be demonstrated to the Division. (condition 12).

The due date of the first semi-annual monitoring report required by the operating permit will suffice as the self-certification that this engine can comply with the permit conditions.

- The following engine shall be removed from the facility and a letter

submitted to the Division requesting that those APENs be cancelled:  
P104 – Waukesha, model L7042G ICCE PW#3, S/N 193857 (AIRS ID 081/0049/004). (Condition 13).

Questar provided notice on July 3, 2008 that this unit was removed from the facility. Therefore, since this requirement has been completed, this requirement has not been included in the operating permit.

- This source is subject to the odor requirements of Regulation No. 2 (State only enforceable). (Condition 14)

Engines are not generally a source of odor therefore this condition will not be specifically included in the permit but is included in the General Conditions (Section IV) of the permit.

- This engine is subject to the statewide requirements for control of emissions from new and relocated natural gas fired reciprocating internal combustion engines under Regulation No. 7, Section XVII.E (condition 15)

Regulation No. 7, Section XVII.B.4 states that internal combustion engines subject to an NSPS standard are not subject to Section XVII. This engine is subject to NSPS JJJJ (which include the same emission standards as the Reg 7 Section XVII requirements), and so this condition was not included in the operating permit.

- This permit shall expire if the owner or operator does not commence construction within 18 months of permit issuance (condition 16).

As discussed previously, the new Caterpillar G3608 engine has commenced operation and this condition is no longer relevant and has not been included in the operating permit.

In addition to the conditions of Construction Permit 08MF0451, the following applicable requirements are being incorporated:

- **NSPS JJJJ.** According to 40 CFR 60.4230(a)(4)(i), this engine is subject to NSPS JJJJ because it commenced construction (was ordered by the owner or operator) after June 12, 2006, was manufactured after July 1, 2007 and is a lean burn engine greater than 500 hp. The requirements for this particular engine include the following standards in Table 1 of NSPS JJJJ:
  - NO<sub>x</sub>: 2.0 g/hp-hr
  - CO: 4.0 g/hp-hr
  - VOC: 1.0 g/hp-hr

Because the engine is NOT certified by the manufacturer, the source is required to conduct an initial performance test and subsequent performance tests every three years or 8760 hours (whichever comes first). The source must also keep records of maintenance performed.

Subpart JJJJ specifies the portions of the General Provisions (40 CFR 60 Subpart A) that apply. In the case of a non-certified engine requiring performance testing, only the performance testing requirements of 60.8 and circumvention requirements of 60.12 are specified as applicable and/or are not addressed by more specific requirements within Subpart JJJJ.

- **Area Source MACT ZZZZ.** According to 40 CFR 63.6590(a)(2)(iii) – this engine is a new affected source located at an area source of HAPs (commenced construction on or after June 12, 2006). New affected engines at area sources meet the requirements of MACT ZZZZ by meeting the requirements of NSPS JJJJ (40 CFR 63.6590(c)); no other requirements under MACT ZZZZ apply.
- **CAM Plan** – The engine is equipped with an oxidation catalyst to control NO<sub>x</sub> and CO emissions. Uncontrolled NO<sub>x</sub> and CO emissions do not exceed the major source thresholds so CAM does not apply.

**2. Emission Factors** - Emissions from these reciprocating engines are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment, specific properties of the natural gas burned, and engine design specifications. The pollutants of concern are Nitrogen Oxides (NO<sub>x</sub>), Carbon Monoxide (CO) and Volatile Organic Compounds (VOC). Small quantities of Hazardous Air Pollutants (HAPs) are also emitted when combustion is incomplete. Approval of emission factors is necessary to monitor compliance with the emission limitations. The source proposed emission factors in units of g/hp-hr. However, for determining annual emissions the Division converts g/hp-hr emission factors to fuel based emission factors, due to the uncertainties in measuring the horsepower. Therefore, the g/hp-hr values were converted to lb/mmBtu, based on the following equation and the values in the table below:

$$\text{Lb/mmBtu} = \frac{\text{g/hp-hr} \times \text{max hp}}{\text{heat input rate (mmBtu/hr)} \times 453.6 \text{ g/lb}}$$

Pollutant	Emission Factor (g/hp-hr)	Engine Information	Converted Emission Factor (lb/mmBtu)
NO <sub>x</sub>	0.7	Max Hp – 2,002 Heat input rate: 13.90 mmBtu/hr	0.22
CO	2.49		0.08
VOC	0.61		0.05

**3. Monitoring Plan** – The monitoring requirements for this engine are based on guidance developed by the Division for Internal Combustion Engines as shown on the attached Grid titled "Compliance/Scenario Summary - Gas Fired IC Engines" and are included in Section II.7 of the permit. The grid is generally based on whether the emission factors used are more conservative than AP-42 emission factors. Since the NO<sub>x</sub> emission factor is less conservative than AP-42, catalyst parameters are required to be monitored monthly and portable monitoring is required quarterly. Since the emission factors for these engines have been converted to units of lbs/mmBtu, semi-annual sampling and analysis of the natural gas burned shall be required to determine the heat content of the gas. Finally, the Division presumes the engine is in compliance with the opacity requirements, in the absence of credible evidence to the contrary, only when natural gas is used as fuel.

### **Other Modifications**

In addition to the requested modifications, the Division has included changes to make the permit more consistent with recently issued permits, included comments made by EPA on other Operating Permits, as well as corrected errors or omissions identified during inspections and/or discrepancies identified during review of this modification. These changes are as follows:

#### **Section I - General Activities and Summary**

- Revised Condition 1.4 to reflect the correct State-only enforceable status of the General Conditions and added a reference to the Reg 7 requirements for the dehydrator as State-only enforceable.
- Updated Condition 2 to the current Alternative Operating Scenario (AOS) for engines (version 12/10/2008). Note that the facility is a major stationary source for purposes of PSD review, so permanent engine replacement may only be used for engines with permitted emission limits below the PSD significance thresholds. The new Caterpillar G3608 (AIRS Point 025) has permitted emissions below the PSD significance thresholds. Existing engines at the facility also have permitted emissions below the PSD significance thresholds (P304, P305 and P105). The grandfathered engine P104, which does not have permitted emission limits, is being removed as part of this modification.
- Updated Condition 3.1 to current PSD applicability language

#### **Section II - Specific Permit Terms**

- Permit Condition 1 (formerly Condition 2) – corrected citation to opacity requirement in Table.
- Permit Condition 1.1.1 (formerly Condition 2.1.1) – updated portable monitoring language to newest version.

- Permit Condition 5 (formerly Condition 7) – This engine started on November 17, 2005. According to the most recent inspection report (dated 9/18/2008), the source demonstrated compliance with the monthly emission and fuel use limits for the prior 12 month period. Therefore, the monthly emission and fuel use limits have been removed. A performance test on this engine was conducted on March 21, 2006 and was subsequently approved by the Division. Therefore, the requirement to conduct the initial performance test has been removed. The portable monitoring language in Condition 5.1.1 (old condition 7.1.1) has been updated to the newest version.
- Permit Condition 7 (formerly Condition 8) – updated portable monitoring language to current version.

### Section III – Permit Shield

- The citation in the header of the permit shield section was corrected.

### Section IV - General Conditions

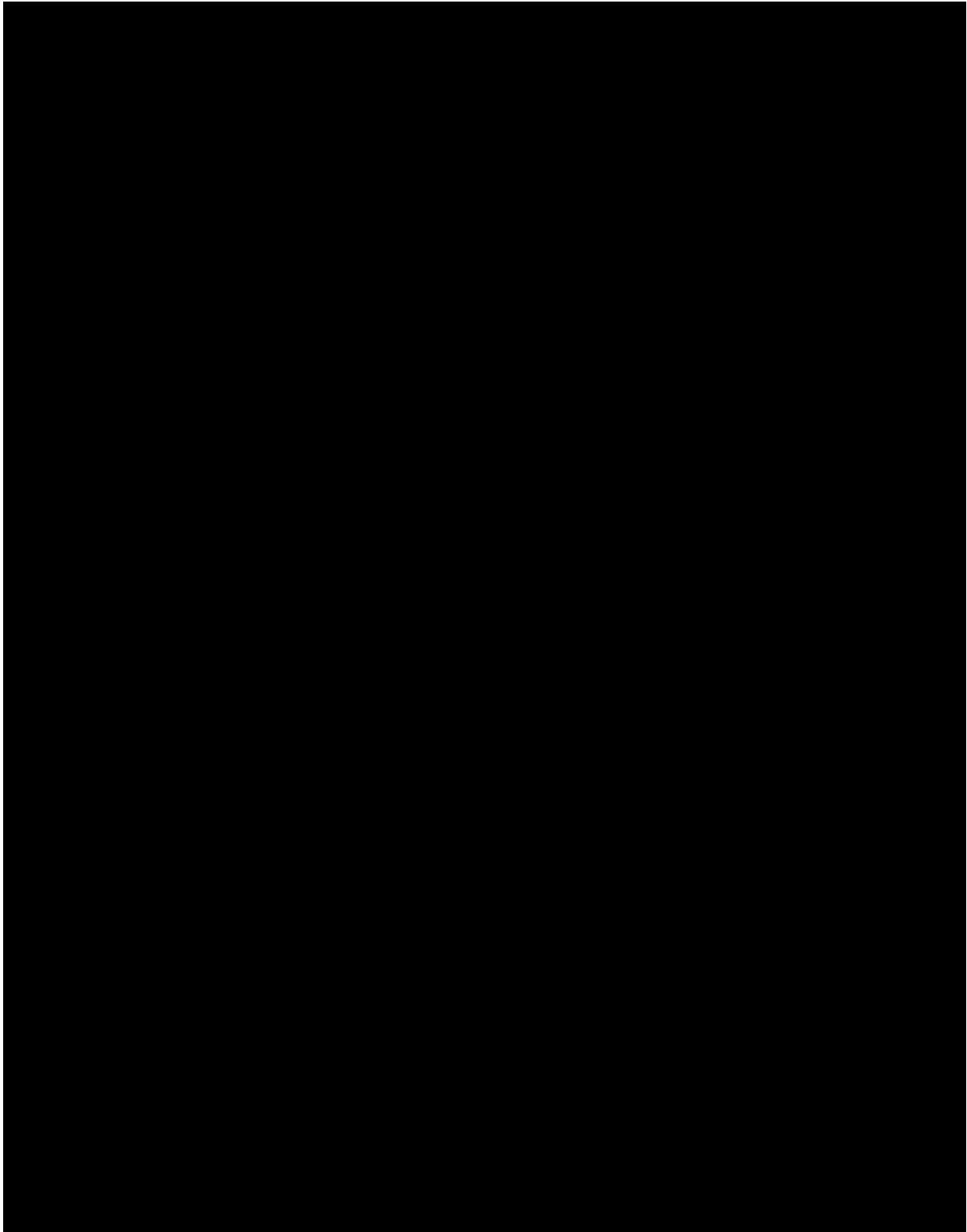
- Updated the General Conditions to the current version (2/20/2007)

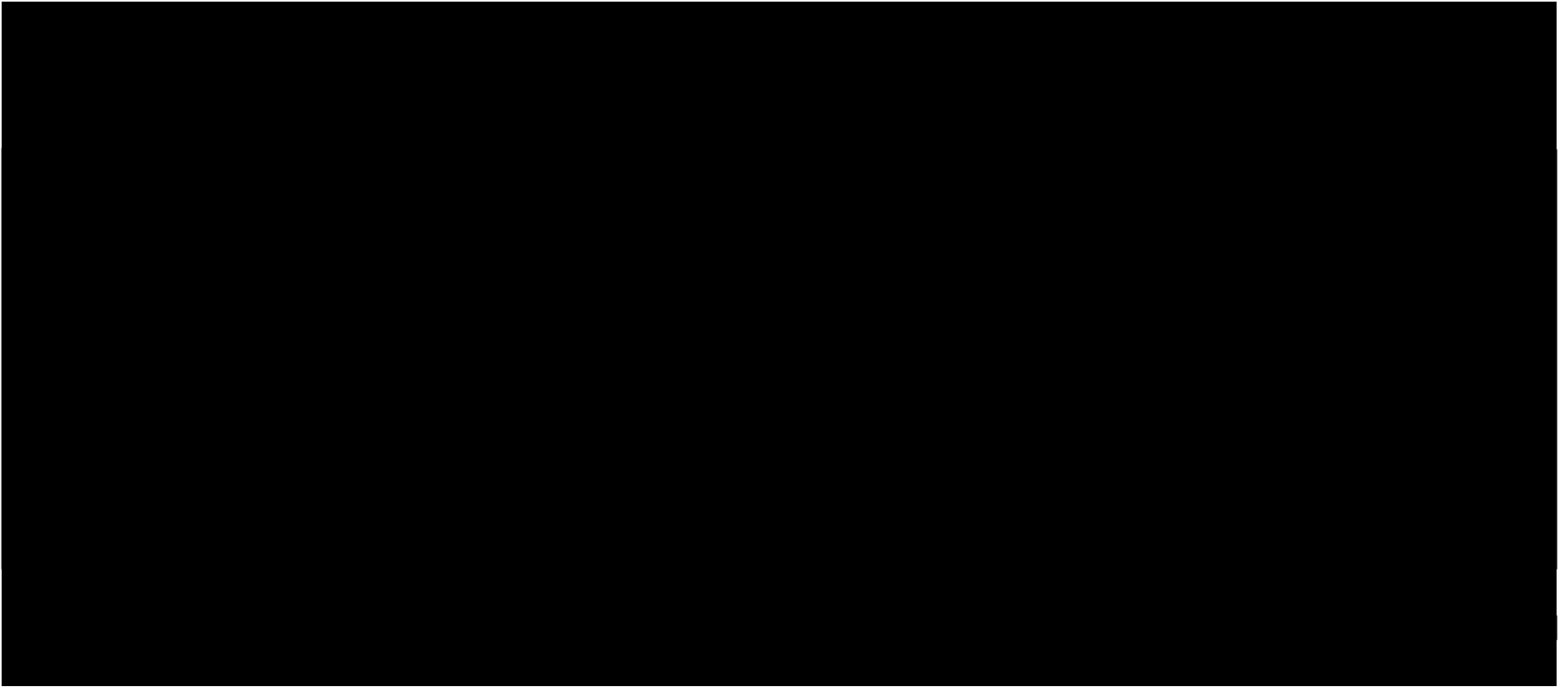
### Appendices

- Included updated safety equipment requirements in Appendix A.
- Updated Appendices B and C to the newest version, and to include the current list of equipment in the tables.
- Updated the mailing address for EPA in Appendix D
- Included a list of modifications made in Appendix F
- Added a new Appendix I for applicability reports required under the AOS.

### Public Notice

- Public notice for this permit modification ended on July 22, 2009. No comments were received.





EMISSIONS CALCULATED USING EMISSION FACTORS = or > AP-42

COMPLIANCE DEMONSTRATION METHOD	EMISSION UNIT SCENARIO										
	FACILITY CRITERIA PTE > 250 TPY, OR FACILITY CRITERIA PTE < 200 TPY			CRITERIA REVISIONS NEAR MAJOR MOD, OR FACILITY CRITERIA PTE > 200, < 250 TPY			EMISSION UNIT PSD/BACT REQUIREMENTS		EMISSION UNIT HAP EMISSIONS		
	G/FATHERED/ EXEMPT/ NO LIMITS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS	G/FATHERED/ EXEMPT/ NO LIMITS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS	NO PERMIT LIMITS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS
NONE									NOT APPLICABLE		
EMISSION FACTORS/CALCULATION	X(A)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)			
HPIHRS/FUEL USE MEASUREMENT	X(A)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)			
CATALYST PARAMETERS			R(M)				R(M)		R(M)		
A/F CONTROLLER PARAMETERS			R(M)				R(M)	R(M)	R(M)		
PORTABLE MONITOR			X(S)				X(Q)	X(Q)	X(Q)		
STACK TEST								X(1)	X(1)		
CEM											

EMISSIONS CALCULATED USING EMISSION FACTORS < AP-42

COMPLIANCE DEMONSTRATION METHOD	EMISSION UNIT SCENARIO										
	FACILITY CRITERIA PTE > 250 TPY, OR FACILITY CRITERIA PTE < 200 TPY			CRITERIA REVISIONS NEAR MAJOR MOD, OR FACILITY CRITERIA PTE > 200, < 250 TPY			EMISSION UNIT PSD/BACT REQUIREMENTS		EMISSION UNIT HAP EMISSIONS		
	G/FATHERED/ EXEMPT/ NO LIMITS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS	G/FATHERED/ EXEMPT/ NO LIMITS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS	NO PERMIT LIMITS	PERMIT LIMITS, NO CONTROLS	PERMIT LIMITS, CONTROLS
NONE									NOT APPLICABLE		
EMISSION FACTORS/CALCULATION	X(A)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)			
HPIHRS/FUEL USE MEASUREMENT	X(A)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)	X(M)			
CATALYST PARAMETERS			R(M)			R(M)		R(M)			
A/F CONTROLLER PARAMETERS			R(M)			R(M)	R(M)	R(M)			
PORTABLE MONITOR	X(Q)	X(Q)	X(Q)	X(Q)	X(Q)	X(Q)	X(Q)	X(Q)			
STACK TEST				X(1)	X(1)	X(1)	X(1)	X(1)			
CEM											

- NOTES: 1) NSPS SOURCES WILL HAVE CASE-BY-CASE REQUIREMENTS.  
2) COMPLIANCE HISTORY MAY BE USED TO ADJUST THE STRINGENCY OF THE DEMONSTRATION METHOD.  
3) USE OF PIPELINE QUALITY NATURAL GAS IS CONSIDERED ADEQUATE FOR DEMONSTRATING COMPLIANCE WITH OPACITY REQUIREMENTS.  
4) SITE LOCATION (RURAL, ETC) MAY ADJUST THE STRINGENCY OF THE DEMONSTRATION METHOD.  
5) X( ) = EVENT FREQUENCY AS FOLLOWS:  
1 = ONE TIME TEST      A = ANNUALLY      S = SEMI-ANNUALLY      Q = QUARTERLY      M=MONTHLY      D=DAILY  
6) R = RECORD MONTHLY AND DURING PORTABLE MONITOR TESTING.  
7) STACK TESTING WILL BE A CASE-BY-CASE DETERMINATION.  
8) PARAMETRIC MONITORING MAY BE CONSIDERED AS AN ALTERNATIVE TO PORTABLE MONITORING. PERIODIC VERIFICATION OF THE PARAMETRIC RELATIONSHIPS WILL BE REQUIRED.  
9) CATALYST PARAMETERS CONSIST OF UNIT PRESSURE DROP, EXHAUST GAS TEMPERATURE DROP.  
10) A/F CONTROLLER PARAMETERS CONSIST OF UNIT MILLIVOLT READING.  
11) THE PERMIT SHOULD CONTAIN A GENERAL STATEMENT THAT THE ENGINE WILL BE MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.  
12) PORTABLE MONITORING RESULTS MAY TRIGGER A STACK TEST REQUIREMENT TO DEMONSTRATE COMPLIANCE.